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Form factors for semileptonic B-decays with HISQ light quarks and clover b-quarks in Fermilab interpretation

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We compute the complete set of form factors for the $B \rightarrow \pi$, $B \rightarrow K$, and $B_s \rightarrow K$ amplitudes, which are needed to describe semileptonic B -meson decay rates for both the charged and neutral current cases. We use the highly improved staggered quark (HISQ) action for the sea and light valence quarks. The b quark is described by the Wilson-clover action in the Fermilab interpretation. Simulations are carried out on $N_f = 2 + 1 + 1$ MILC HISQ ensembles at approximate lattice spacings from 0.15 fm down to 0.057 fm. We present preliminary results for the form factors.

Topical area

Quark and Lepton Flavor Physics

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